

Support for Amendment:

Claim 37 is amended to clarify the center indenting fold pattern provided to close the ends of flutes on a fluted sheet sealed to a facing sheet. Support can be seen in the application at, for example, page 16, line 8 through page 21, line 6. For example, the application shows a sealant 150 between the fluted sheet and the facing sheet. See the application at page 21, lines 1-6, and Figures 8 and 9. The phrase “center indenting fold pattern” is supported by the application at, for example, page 18, lines 12-20. The claim language characterizing how the center indenting fold pattern is achieved is provided by the application at, for example, page 17, line 32 through page 18, line 11, and page 19, lines 22-29.

As a result of the amendment to claim 37, claim 38 is cancelled.

Claims 41, 46, and 47 are amended in view of the amendment to claim 37 referring to a “center indenting fold pattern.” Claim 46 is additionally amended to clarify that the ridge of the flute is inverted.

New claim 48 is introduced characterizing the indented flute portion as adhered to the facing sheet by the sealant. This is supported by, for example, Figures 8, 9, and 15.

No new matter is introduced by this amendment, and entry thereof is requested. Upon entry, claims 37 and 39-48 are active in this application.

REMARKS

The Applicants' below-named representative would like to thank Supervisory Primary Examiner Krishnan Menon for the helpful and courteous discussion of the issues in this application held on May 20, 2010. It is understood that the application is no longer being handled by Examiner Marjorie Christian, and is currently being handled by Examiner Dirk Bass.

The discussion with Examiner Menon was directed at the differences between the center indenting fold pattern provided by the fluted filter media construction according to the present invention, and the flute closure techniques described in the references including JP 1171615 to Kadoya et al. and U.S. Patent No. 5,562,825 to Yamada et al. As result of the discussion, independent claim 37 is amended to more clearly characterize the center indenting fold pattern. It is believed that the presently claimed fluted filter media construction is now more clearly different from the media described by Kadoya et al. and Yamada et al. In particular, it is submitted that Kadoya et al. and Yamada et al. fail to disclose or suggest a fluted filter media construction having flutes closed by a center indenting fold pattern according to the present invention. The substance of this discussion is summarized and further expanded upon in the following remarks.

The outstanding Office Action includes two prior art-based rejections. Both of the rejections are addressed.

Claims 37-42 and 44-47 stand rejected under 35 U.S.C. § 102(b) over JP 1171615 to Kadoya et al. This rejection is traversed.

Independent claim 37 is directed at a fluted filter media construction. The fluted filter media construction includes a fluted sheet of filter media comprising a wave pattern of ridges and troughs, a facing sheet of filter media adhered to the fluted sheet and wherein the fluted sheet and the facing sheet form a plurality of flutes extending therebetween, sealant provided between the fluted sheet and the facing sheet, and wherein the plurality of flutes extending between the fluted sheet and the facing sheet comprise a center indenting fold pattern sealing the plurality of flutes to the passage of unfiltered air. The center indenting fold pattern results from indenting each flute, to be closed, at or near an apex of each flute forming an indented flute portion and a

pair of ridges comprising a first ridge and a second ridge. At least one of the first ridge or the second ridge is folded toward the facing sheet. As a result, the center indenting fold pattern includes a flat first layer resulting from the indented flute portion secured to the facing sheet, and a second layer pressed against the flat first layer, wherein the second layer comprises the at least one of the first ridge or the second ridge folded against the first flat layer.

Kadoya et al. fail to disclose or suggest a fluted filter media construction having a center indenting fold pattern according to the presently claimed invention. The Examiner's attention is directed to the English language translation of Kadoya et al. provided by the United States Patent and Trademark Office. This translation of Kadoya et al. at pages 7 and 8 and Figures 1-3 show a filter element 1 having a sheet-like flat filter medium 2 and a corrugated filter medium 3. The corrugated filter medium 3 includes folding parts 4 and 5 that are folded in "reciprocal direction." Kadoya et al. additionally describe end surfaces 4e and 5e of the folding parts 4 and 5 that form a roughly semi-circular shape. Clearly, Kadoya et al. fail to describe a center indenting fold pattern provided as a result of indenting each flute, to be closed, at or near an apex of each flute forming an indented flute portion and a pair of ridges comprising a first ridge and a second ridge, and folding at least one of the first ridge or the second ridge toward the facing sheet according to the presently claimed invention. Furthermore, according to the presently claimed invention, the indented flute portion forms a flat first layer against the facing sheet, and the folded first ridge or second ridge forms a second layer pressed against the flat first layer. Clearly, the presently claimed fluted filter media construction is not disclosed or suggested by Kadoya et al.

In view of the above comments, the presently claimed invention is not anticipated by and would not have been obvious from Kadoya et al. Accordingly, withdrawal of this rejection is requested.

Claim 43 stands rejected under 35 U.S.C. § 103(a) over Kadoya et al. and U.S. Patent No. 5,435,958 to Dinnage et al. This rejection is traversed.

As discussed above, Kadoya et al. fails to describe a fluted filter media construction having a center indenting fold pattern according to the presently claimed invention. Dinnage et al. would not have suggested modifying Kadoya et al. to achieve the presently claimed invention.

Dinnage et al. describe an element 10 for a humidity exchanger. The element 10 includes a flat sheet 11 and a corrugated sheet 12. See Dinnage et al. at column 2, lines 49-64, and Figure 1. Dinnage et al., however, are not directed at closing ends of the flutes on the corrugated sheet 12. As a result, it is submitted that a *prima facie* of obviousness has not been established, and withdrawal of the rejection is requested.

In view of the above comments, the invention would not have been obvious over Kadoya et al. and Dinnage et al. and withdrawal of this rejection is requested.

The Examiner's attention is additionally directed to U.S. Patent No. 5,562,825 to Yamada et al. This reference was the subject of discussion between Examiner Menon and the Applicants' below-named representative on May 20, 2010. Although Yamada et al. describe pressing flutes toward a facing sheet in the context of Figure 4 (see Yamada et al. at column 5, lines 18-25), it is submitted that Yamada et al. fail to disclose or suggest a fluted filter media construction having a center indenting fold pattern according to the present claimed invention.

It is believed that this application is in condition for allowance. Early notice to this effect is earnestly solicited.



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Respectfully submitted,

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A handwritten signature in dark ink, appearing to read "Dennis R. Daley". The signature is written over a horizontal line.

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DRD/mls